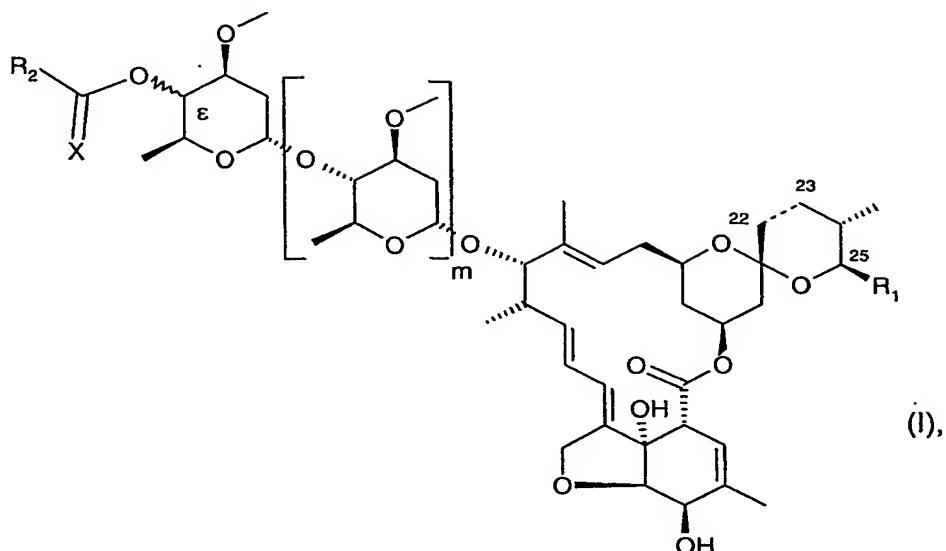


CLAIMS

1. A compound of the formula



5 wherein the bond between carbon atoms 22 and 23 is a single or double bond;

m is 0 or 1;

R₁ is C₁-C₁₂alkyl, C₃-C₈cycloalkyl or C₂-C₁₂alkenyl; and either

(A) R_2 is $-N(R_3)R_4$, and

(1) X is O, wherein

10 R₃ is hydrogen, unsubstituted or mono- to pentasubstituted C₁-C₁₂alkyl, unsubstituted or mono- to pentasubstituted C₃-C₁₂cycloalkyl, unsubstituted or mono- to pentasubstituted C₂-C₁₂alkenyl, unsubstituted or mono- to pentasubstituted C₂-C₁₂alkynyl, aryl or heterocyclyl, and

15 R₄ is mono- to pentasubstituted C₁-C₁₂alkyl, unsubstituted or mono- to pentasubstituted C₃-C₁₂cycloalkyl, unsubstituted or mono- to pentasubstituted C₂-C₁₂alkenyl, unsubstituted or mono- to pentasubstituted C₂-C₁₂alkynyl, unsubstituted and mono- to trisubstituted heterocycl, unsubstituted and mono- to pentasubstituted aryl, NH₂, NHC₁-C₁₂alkyl, N(C₁-C₁₂alkyl)₂, C₁-C₆alkyl-N(C₁-C₁₂alkyl)₂, -C₁-C₆alkyl-N⁺(C₁-C₁₂alkyl)₃, SO₂NH₂, SO₂NHC₆H₅, SO₂Phenyl, SO₂Benzyl, OH, -OC₁-C₁₂alkyl, -OC₁-C₁₂alkenyl or -OC₁-C₁₂alkynyl; or

20

(2) X is S, wherein

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R_3 is hydrogen, unsubstituted or mono- to pentasubstituted C_1 - C_{12} alkyl, unsubstituted or mono- to pentasubstituted C_3 - C_{12} cycloalkyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkenyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkynyl; aryl or heterocyclyl, and

5 R_4 is hydrogen, unsubstituted or mono- to pentasubstituted C_1 - C_{12} alkyl, unsubstituted or mono- to pentasubstituted C_3 - C_{12} cycloalkyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkenyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkynyl, unsubstituted and mono- to trisubstituted heterocyclyl, unsubstituted and mono- to pentasubstituted aryl, NH_2 , NHC_1 - C_{12} alkyl, $N(C_1$ - C_{12} alkyl) $_2$, SO_2NH_2 , $SO_2NHC_6H_5$, SO_2 Phenyl, SO_2 Benzyl, OH or $-OC_1$ - C_{12} alkyl; or

10 (3) X is O or S, wherein R_3 and R_4 together are a three- to seven-membered alkylene or a four- to seven-membered alkenylene bridge, in which a CH_2 group may be replaced by O, S, C=O or NR_6 ; or

15 (B) R_2 is OR_5 and X is O or S, wherein R_5 is C_1 - C_{12} alkyl, mono- to pentasubstituted C_1 - C_{12} alkyl, unsubstituted or mono- to pentasubstituted C_3 - C_{12} cycloalkyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkenyl, unsubstituted or mono- to pentasubstituted C_2 - C_{12} alkynyl;

20 in which the substituents of the alkyl-, alkenyl-, alkynyl-, alkylene-, alkenylene-, heterocyclyl-, aryl- and cycloalkyl-radicals mentioned under R_3 , R_4 and R_5 are selected from the group consisting of OH, halogen, halo- C_1 - C_2 alkyl, CN, SCN, NO_2 , C_2 - C_6 alkynyl, C_3 - C_8 cycloalkyl which is unsubstituted or substituted by one to three methyl groups; norbornylenyl; C_3 - C_8 cycloalkenyl which is unsubstituted or substituted by one to three methyl groups; C_3 - C_8 halocycloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} alkoxy C_1 - C_{12} alkoxy, C_3 - C_8 cycloalkoxy, 25 C_1 - C_{12} alkylthio, C_3 - C_8 cycloalkylthio, C_1 - C_{12} haloalkylthio, C_1 - C_{12} alkylsulfinyl, C_3 - C_8 cycloalkylsulfinyl, C_1 - C_{12} haloalkylsulfinyl, C_3 - C_8 halocycloalkylsulfinyl, C_1 - C_{12} alkylsulfonyl, C_3 - C_8 cycloalkylsulfonyl, C_1 - C_{12} haloalkylsulfonyl, C_3 - C_8 halocycloalkylsulfonyl, C_2 - C_6 alkenyl, C_2 - C_8 alkynyl, $-N(R_6)_2$, wherein the two R_6 are independent of each other; $-C(=O)R_7$, $-O-C(=O)R_8$, $-NHC(=O)R_7$, $-S-C(=S)R_8$, $-P(=O)(OC_1$ - C_6 alkyl) $_2$, $-S(=O)_2R_{11}$; $-NH-S(=O)_2R_{11}$, 30 $-OC(=O)-C_1$ - C_6 alkyl- $S(=O)_2R_{11}$; aryl, benzyl, heterocyclyl, aryloxy, benzyloxy, heterocyclyloxy, arylthio, benzylthio, heterocyclylthio; and also aryl, heterocyclyl, aryloxy, benzyloxy, heterocyclyloxy, arylthio, benzylthio or heterocyclylthio which, depending on the possibilities of substitution on the ring, are mono- to pentasubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, 35 C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio, C_1 - C_{12} haloalkylthio,

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C_1 - C_6 alkoxy- C_1 - C_6 alkyl, dimethylamino- C_1 - C_6 alkoxy, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenoxy, phenyl- C_1 - C_6 alkyl, methylenedioxy, $-C(=O)R_7$, $-O-C(=O)-R_8$, $-NH-C(=O)R_8$, $-N(R_{10})_2$, wherein the two R_{10} are independent of each other; C_1 - C_6 alkylsulfinyl, C_3 - C_8 cycloalkylsulfinyl, C_1 - C_6 haloalkylsulfinyl, C_3 - C_8 halocycloalkylsulfinyl, C_1 - C_6 alkylsulfonyl, C_3 - C_8 cycloalkylsulfonyl,

5 C_1 - C_6 haloalkylsulfonyl and C_3 - C_8 halocycloalkylsulfonyl;

R_6 is H, C_1 - C_6 alkyl, hydroxy- C_1 - C_6 alkyl, C_3 - C_8 cycloalkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, benzyl, $-C(=O)R_7$, or $-CH_2-C(=O)-R_7$;

R_7 is H, OH, SH, $-N(R_{10})_2$, wherein the two R_{10} are independent of each other;

10 C_1 - C_{24} alkyl, C_2 - C_{12} alkenyl, C_1 - C_8 hydroxyalkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_1 - C_{12} alkylthio, C_2 - C_8 alkenyloxy, C_2 - C_8 alkynyloxy, $NH-C_1-C_6$ alkyl- $C(=O)R_9$, $-N(C_1-C_6$ alkyl)- C_1-C_6 alkyl- $C(=O)-R_9$, $-O-C_1-C_2$ alkyl- $C(=O)R_9$, $-C_1-C_6$ alkyl- $S(=O)_2R_9$; aryl, benzyl, heterocyclyl, aryloxy, benzyloxy, heterocyclyloxy; or aryl, benzyl, heterocyclyl, aryloxy, benzyloxy or heterocyclyloxy, which are unsubstituted or mono- to trisubstituted in 15 the ring independently of one another by halogen, nitro, C_1 - C_6 alkyl, C_1 - C_6 alkoxy, C_1 - C_6 haloalkyl or C_1 - C_6 haloalkoxy;

R_8 is H, C_1 - C_{24} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} hydroxyalkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, C_1 - C_6 alkoxy- C_1 - C_6 alkyl, $N(R_{10})_2$, wherein the two R_{10} are independent of each other; $-C_1-C_6$ alkyl- $C(=O)R_{10}$, $-C_1-C_6$ alkyl- $S(=O)_2R_9$, aryl, benzyl, heterocyclyl; or aryl, benzyl or 20 heterocyclyl which, depending on the possibilities of substitution on the ring, are mono- to trisubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio and C_1 - C_{12} haloalkylthio;

25 R_9 is H, OH, C_1 - C_{24} alkyl which is optionally substituted with OH, or $-S(=O)_2-C_1-C_6$ alkyl; C_1 - C_{12} alkenyl, C_1 - C_{12} alkynyl, C_1 - C_{12} alkoxy, C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkoxy, C_2 - C_8 alkenyloxy, aryl, aryloxy, benzyloxy, heterocyclyl, heterocyclyloxy or $-N(R_{10})_2$, wherein the two R_{10} are independent of each other;

30 R_{10} is H, C_1 - C_6 alkyl, which is optionally substituted with one to five substituents selected from the group consisting of halogen, C_1 - C_6 alkoxy, hydroxy and cyano; C_1 - C_8 -cycloalkyl, aryl, benzyl, heterocyclyl; or aryl, benzyl or heterocyclyl, which, depending on the possibilities of substitution on the ring, are mono- to trisubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio and C_1 - C_{12} haloalkylthio;

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or, if appropriate, an E/Z isomer, E/Z isomer mixture and/or tautomer thereof, in each case in free form or in salt form.

2. A pesticide composition which contains at least one compound of the formula (I) as described in claim 1 as active compound and at least one auxiliary.

5 3. A method for controlling pests wherein a composition as defined in claim 2 is applied to the pests or their habitat.

4. A process for preparing a composition as defined in claim 2 which contains at least one auxiliary, wherein the active compound is mixed intimately and/or ground with the auxiliary(s).

10 5. The use of a compound of the formula (I) as defined in claim 1 for preparing a composition as defined in claim 2.

6. The use of a composition as defined in claim 2 for controlling pests.

15 7. A method for protecting plant propagation material against damage by a pest, wherein the propagation material or the location where the propagation material is planted is treated with a composition as defined in claim 2.

8. Plant propagation material treated in accordance with the method defined in claim 7.